

CLAIMS

We claim:

1. A system of controllers acting as nodes on a network and providing automatic self configuration comprising:

5 a first node having means for broadcasting a default identifier in a default domain;
means for designating said first node as a supervisory node;
a plurality of second nodes with each second node being a client node and
having means for broadcasting a default identifier in said default domain;
10 a communication medium coupling said supervisory node and each said client node;
means at said first node for receiving and ranking said default identifier from each said client node;
means at said first node for creating a network address for each said client node
and communicating said network address in said default domain; and
15 means at each said client node for receiving and internalizing said assigned network address thereby enabling communication of control information between said supervisory node and each said client node in a domain that is not said default domain.

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2. The system of claim 1 wherein said means for designating said first node as a supervisory node comprises a selected electrical connection at said first node.

25 3. The system of claim 1 wherein said default domain allows communication between nodes without utilizing a subnet and node address.

4. The system of claim 1 wherein said network address in a domain that is not said default domain comprises a subnet and node address.

30 5. The system of claim 1 wherein said network utilizes a LonWorks protocol and said nodes are Neuron-based nodes.

6. The system of claim 5 wherein said first identifier comprises a Neuron ID.

7. The system of claim 1 wherein said control information is selected from the group consisting of analog values, status, mode, alarm, and control commands.

5 8. The system of claim 1 wherein said means at said first node for creating a network address and said means at said each said client node for receiving and internalizing said assigned network address comprises a technique of binding network variables.

10 9. The system of claim 6 wherein said means at said first node for creating a network address and said means at each said client node for receiving and internalizing said assigned network address comprises a technique of binding network variables.

15 10. A system of controllers acting as nodes on a network and providing automatic self-configuration comprising:

a first node having means for broadcasting a default identifier, said first node being addressable in a first domain by a first domain address;

means for designating said first node as a supervisory node;

a plurality of second nodes with each second node having means for

20 broadcasting a default identifier, each said second node designated as a client node and addressable in said first domain by a first domain address;

a communication medium coupling said supervisory node and each said client node;

25 means at said supervisory node for receiving and storing said default identifier from each client node in a predefined array;

means at said supervisory node for assigning a second identifier to each said client node and communicating said second identifier to each said client node; and

30 means at each client node for changing said first domain address of said client node to a network address in a second domain thereby enabling communication of control information between said supervisory node and each said client node.

11. The system of claim 10 wherein said first domain allows communication between nodes without a subnet and node address.

5 12. The system of claim 10 wherein said network address in a second domain comprises a subnet and node address.

13. The system of claim 10 wherein said control information is selected from the group consisting of analog values, status, mode, alarm, and control commands.

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14. The system of claim 10 wherein said means for designating said first node as a supervisory node comprises a selected electrical connection at said first node.

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15. The system of claim 10 wherein said network utilizes a LonWorks protocol and said nodes are Neuron based nodes.

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16. The system of claim 10 wherein said means at said supervisory node for communicating said second identifier and said means at said each said client node for changing said first domain address of said client node to a network address in a second domain comprises a technique of binding network variables.

17. The system of claim 15 wherein said default identifier for a second node comprises a Neuron ID.

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18. A method of configuring controllers to allow communication on a network comprising the steps of:

providing controllers, with each controller having a first identifier and being configured from a default value to communicate said first identifier;

designating one controller as a supervisory node;

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designating each remaining controller as a client node;

connecting said supervisory node and each remaining controller to a network;

initializing operation of said controllers;

communicating said first identifiers;

storing said first identifiers in an array at said supervisory node, with said first identifiers stored according to a characteristic contained in said first identifiers; and
5 assigning a second identifier to each remaining controller, said second identifier enabling said supervisory node to communicate control information; and communicating control information between said supervisory node and each remaining controller.

- 10 19. The method of claim 18 wherein said step of designating one controller as a supervisory node comprises the step of making an electrical connection at said one node.
- 15 20. The method of claim 18 wherein said step of assigning a second identifier comprises assigning subnet node addressing.
- 20 21. The method of claim 18 wherein said step of communicating control information comprises communicating information selected from the group consisting of analog values, status, mode, alarm, and control commands.
22. The method of claim 20 wherein said network utilizes a standard communication protocol.
23. The method of claim 22 wherein said standard communication protocol is LonWorks.